



#7

SEQUENCE LISTING

Srikoo, Suresh
Babiuk, Lorne
Zhang, Linong
Wu, Qiaohua

<120> MODIFIED BOVINE ADENOVIRUS HAVING
ALTERED TROPISM

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<141> 2001-05-31

<150> US 60/208,678

<151> 2000-05-31

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 Lys Tyr Gly Ala Pro Leu His Val Thr Asp Asp Leu Asn Thr Leu Thr
 225 230 235 240
 Val Ala Thr Gly Pro Gly Val Thr Ile Asn Asn Thr Ser Leu Gln Thr
 245 250 255
 Lys Val Thr Gly Ala Leu Gly Phe Asp Ser Gln Gly Asn Met Gln Leu
 260 265 270
 Asn Val Ala Gly Gly Leu Arg Ile Asp Ser Gln Asn Arg Arg Leu Ile
 275 280 285
 Leu Asp Val Ser Tyr Pro Phe Asp Ala Gln Asn Gln Leu Asn Leu Arg
 290 295 300
 Leu Gly Gln Gly Pro Leu Phe Ile Asn Ser Ala His Asn Leu Asp Ile
 305 310 315 320
 Asn Tyr Asn Lys Gly Leu Tyr Leu Phe Thr Ala Ser Asn Asn Ser Lys
 325 330 335
 Lys Leu Glu Val Asn Leu Ser Thr Ala Lys Gly Leu Met Phe Asp Ala
 340 345 350

Thr	Ala	Ile	Ala	Ile	Asn	Ala	Gly	Asp	Gly	Leu	Glu	Phe	Gly	Ser	Pro
	355						360					365			
Asn	Ala	Pro	Asn	Thr	Asn	Pro	Leu	Lys	Thr	Lys	Ile	Gly	His	Gly	Leu
	370					375					380				
Glu	Phe	Asp	Ser	Asn	Lys	Ala	Met	Val	Pro	Lys	Leu	Gly	Thr	Gly	Leu
385					390					395					400
Ser	Phe	Asp	Ser	Thr	Gly	Ala	Ile	Thr	Val	Gly	Asn	Lys	Asn	Asn	Asp
				405					410					415	
Lys	Leu	Thr	Leu	Trp	Thr	Thr	Pro	Ala	Pro	Ser	Pro	Asn	Cys	Arg	Leu
			420					425					430		
Asn	Ala	Glu	Lys	Asp	Ala	Lys	Leu	Thr	Leu	Val	Leu	Thr	Lys	Cys	Gly
	435						440					445			
Ser	Gln	Ile	Leu	Ala	Thr	Val	Ser	Val	Leu	Ala	Val	Lys	Gly	Ser	Leu
	450					455					460				
Ala	Pro	Ile	Ser	Gly	Thr	Val	Gln	Ser	Ala	His	Leu	Ile	Ile	Arg	Phe
465					470					475					480
Asp	Glu	Asn	Gly	Val	Leu	Leu	Asn	Asn	Ser	Phe	Leu	Asp	Pro	Glu	Tyr
				485					490					495	
Trp	Asn	Phe	Arg	Asn	Gly	Asp	Leu	Thr	Glu	Gly	Thr	Ala	Tyr	Thr	Asn
			500					505					510		
Ala	Val	Gly	Phe	Met	Pro	Asn	Leu	Ser	Ala	Tyr	Pro	Lys	Ser	His	Gly
	515						520					525			
Lys	Thr	Ala	Lys	Ser	Asn	Ile	Val	Ser	Gln	Val	Tyr	Leu	Asn	Gly	Asp
	530					535					540				
Lys	Thr	Lys	Pro	Val	Thr	Leu	Thr	Ile	Thr	Leu	Asn	Gly	Thr	Gln	Glu
545					550					555					560
Thr	Gly	Asp	Thr	Thr	Pro	Ser	Ala	Tyr	Ser	Met	Ser	Phe	Ser	Trp	Asp
				565				570						575	
Trp	Ser	Gly	His	Asn	Tyr	Ile	Asn	Glu	Ile	Phe	Ala	Thr	Ser	Ser	Tyr
			580					585					590		
Thr	Phe	Ser	Tyr	Ile	Ala	Gln	Glu								
	595						600								

<210> 6

<211> 976

<212> PRT

<213> Bovine adenovirus 3

<400> 6

Met	Lys	Arg	Ser	Val	Pro	Gln	Asp	Phe	Asn	Leu	Val	Tyr	Pro	Tyr	Lys
1				5					10					15	
Ala	Lys	Arg	Pro	Asn	Ile	Met	Pro	Pro	Phe	Phe	Asp	Arg	Asn	Gly	Phe
			20					25					30		
Val	Glu	Asn	Gln	Glu	Ala	Thr	Leu	Ala	Met	Leu	Val	Glu	Lys	Pro	Leu
	35						40					45			
Thr	Phe	Asp	Lys	Glu	Gly	Ala	Leu	Thr	Leu	Gly	Val	Gly	Arg	Gly	Ile
	50					55					60				
Arg	Ile	Asn	Pro	Ala	Gly	Leu	Leu	Glu	Thr	Asn	Asp	Leu	Ala	Ser	Ala
65					70					75					80
Val	Phe	Pro	Pro	Leu	Ala	Ser	Asp	Glu	Ala	Gly	Asn	Val	Thr	Leu	Asn
				85					90					95	
Met	Ser	Asp	Gly	Leu	Tyr	Thr	Lys	Asp	Asn	Lys	Leu	Ala	Val	Lys	Val
			100					105					110		
Gly	Pro	Gly	Leu	Ser	Leu	Asp	Ser	Asn	Asn	Ala	Leu	Gln	Val	His	Thr
	115						120					125			
Gly	Asp	Gly	Leu	Thr	Val	Thr	Asp	Asp	Lys	Val	Ser	Leu	Asn	Thr	Gln
	130						135					140			

Ala	Pro	Leu	Ser	Thr	Thr	Ser	Ala	Gly	Leu	Ser	Leu	Leu	Leu	Gly	Pro	145	150	155	160
Ser	Leu	His	Leu	Gly	Glu	Glu	Glu	Arg	Leu	Thr	Val	Asn	Thr	Gly	Ala	165	170	175	
Gly	Leu	Gln	Ile	Ser	Asn	Asn	Ala	Leu	Ala	Val	Lys	Val	Gly	Ser	Gly	180	185	190	
Ile	Thr	Val	Asp	Ala	Gln	Asn	Gln	Leu	Ala	Ala	Ser	Leu	Gly	Asp	Gly	195	200	205	
Leu	Glu	Ser	Arg	Asp	Asn	Lys	Thr	Val	Val	Lys	Ala	Gly	Pro	Gly	Leu	210	215	220	
Thr	Ile	Thr	Asn	Gln	Ala	Leu	Thr	Val	Ala	Thr	Gly	Asn	Gly	Leu	Gln	225	230	235	240
Val	Asn	Pro	Glu	Gly	Gln	Leu	Gln	Leu	Asn	Ile	Thr	Ala	Gly	Gln	Gly	245	250	255	
Leu	Asn	Phe	Ala	Asn	Asn	Ser	Leu	Ala	Val	Glu	Leu	Gly	Ser	Gly	Leu	260	265	270	
His	Phe	Pro	Pro	Gly	Gln	Asn	Gln	Val	Ser	Leu	Tyr	Pro	Gly	Asp	Gly	275	280	285	
Ile	Asp	Ile	Arg	Asp	Asn	Arg	Val	Thr	Val	Pro	Ala	Gly	Pro	Gly	Leu	290	295	300	
Arg	Met	Leu	Asn	His	Gln	Leu	Ala	Val	Ala	Ser	Gly	Asp	Gly	Leu	Glu	305	310	315	320
Val	His	Ser	Asp	Thr	Leu	Arg	Leu	Lys	Leu	Ser	His	Gly	Leu	Thr	Phe	325	330	335	
Glu	Asn	Gly	Ala	Val	Arg	Ala	Lys	Leu	Gly	Pro	Gly	Leu	Gly	Thr	Asp	340	345	350	
Asp	Ser	Gly	Arg	Ser	Val	Val	Arg	Thr	Gly	Arg	Gly	Leu	Arg	Val	Ala	355	360	365	
Asn	Gly	Gln	Val	Gln	Ile	Phe	Ser	Gly	Arg	Gly	Thr	Ala	Ile	Gly	Thr	370	375	380	
Asp	Ser	Ser	Leu	Thr	Leu	Asn	Ile	Arg	Ala	Pro	Leu	Gln	Phe	Ser	Gly	385	390	395	400
Pro	Ala	Leu	Thr	Ala	Ser	Leu	Gln	Gly	Ser	Gly	Pro	Ile	Thr	Tyr	Asn	405	410	415	
Ser	Asn	Asn	Gly	Thr	Phe	Gly	Leu	Ser	Ile	Gly	Pro	Gly	Met	Trp	Val	420	425	430	
Asp	Gln	Asn	Arg	Leu	Gln	Val	Asn	Pro	Gly	Ala	Gly	Leu	Val	Phe	Gln	435	440	445	
Gly	Asn	Asn	Leu	Val	Pro	Asn	Leu	Ala	Asp	Pro	Leu	Ala	Ile	Ser	Asp	450	455	460	
Ser	Lys	Ile	Ser	Leu	Ser	Leu	Gly	Pro	Gly	Leu	Thr	Gln	Ala	Ser	Asn	465	470	475	480
Ala	Leu	Thr	Leu	Ser	Leu	Gly	Asn	Gly	Leu	Glu	Phe	Ser	Asn	Gln	Ala	485	490	495	
Val	Ala	Ile	Lys	Ala	Gly	Arg	Gly	Leu	Arg	Phe	Glu	Ser	Ser	Ser	Gln	500	505	510	
Ala	Leu	Glu	Ser	Ser	Leu	Thr	Val	Gly	Asn	Gly	Leu	Thr	Leu	Thr	Asp	515	520	525	
Thr	Val	Ile	Arg	Pro	Asn	Leu	Gly	Asp	Gly	Leu	Glu	Val	Arg	Asp	Asn	530	535	540	
Lys	Ile	Ile	Val	Lys	Leu	Gly	Ala	Asn	Leu	Arg	Phe	Glu	Asn	Gly	Ala	545	550	555	560
Val	Thr	Ala	Gly	Thr	Val	Asn	Pro	Ser	Ala	Pro	Glu	Ala	Pro	Pro	Thr	565	570	575	
Leu	Thr	Ala	Glu	Pro	Pro	Leu	Arg	Ala	Ser	Asn	Ser	His	Leu	Gln	Leu	580	585	590	
Ser	Leu	Ser	Glu	Gly	Leu	Val	Val	His	Asn	Asn	Ala	Leu	Ala	Leu	Gln				

	595					600					605					
Leu	Gly	Asp	Gly	Met	Glu	Val	Asn	Gln	His	Gly	Leu	Thr	Leu	Arg	Val	
	610						615				620					
Gly	Ser	Gly	Leu	Gln	Met	Arg	Asp	Gly	Ile	Leu	Thr	Val	Thr	Pro	Ser	
625					630					635					640	
Gly	Thr	Pro	Ile	Glu	Pro	Arg	Leu	Thr	Ala	Pro	Leu	Thr	Gln	Thr	Glu	
				645					650					655		
Asn	Gly	Ile	Gly	Leu	Ala	Leu	Gly	Ala	Gly	Leu	Glu	Leu	Asp	Glu	Ser	
			660					665					670			
Ala	Leu	Gln	Val	Lys	Val	Gly	Pro	Gly	Met	Arg	Leu	Asn	Pro	Val	Glu	
	675						680					685				
Lys	Tyr	Val	Thr	Leu	Leu	Leu	Gly	Pro	Gly	Leu	Ser	Phe	Gly	Gln	Pro	
690						695					700					
Ala	Asn	Arg	Thr	Asn	Tyr	Asp	Val	Arg	Val	Ser	Val	Glu	Pro	Pro	Met	
705					710					715					720	
Val	Phe	Gly	Gln	Arg	Gly	Gln	Leu	Thr	Phe	Leu	Val	Gly	His	Gly	Leu	
				725					730					735		
His	Ile	Gln	Asn	Ser	Lys	Leu	Gln	Leu	Asn	Leu	Gly	Gln	Gly	Leu	Arg	
			740					745					750			
Thr	Asp	Pro	Val	Thr	Asn	Gln	Leu	Glu	Val	Pro	Leu	Gly	Gln	Gly	Leu	
	755						760					765				
Glu	Ile	Ala	Asp	Glu	Ser	Gln	Val	Arg	Val	Lys	Leu	Gly	Asp	Gly	Leu	
	770					775					780					
Gln	Phe	Asp	Ser	Gln	Ala	Arg	Ile	Thr	Thr	Ala	Pro	Asn	Met	Val	Thr	
785					790					795					800	
Glu	Thr	Leu	Trp	Thr	Gly	Thr	Gly	Ser	Asn	Ala	Asn	Val	Thr	Trp	Arg	
			805					810						815		
Gly	Tyr	Thr	Ala	Pro	Gly	Ser	Lys	Leu	Phe	Leu	Ser	Leu	Thr	Arg	Phe	
			820					825					830			
Ser	Thr	Gly	Leu	Val	Leu	Gly	Asn	Met	Thr	Ile	Asp	Ser	Asn	Ala	Ser	
	835						840					845				
Phe	Gly	Gln	Tyr	Ile	Asn	Ala	Gly	His	Glu	Gln	Ile	Glu	Cys	Phe	Ile	
	850				855					860						
Leu	Leu	Asp	Asn	Gln	Gly	Asn	Leu	Lys	Glu	Gly	Ser	Asn	Leu	Gln	Gly	
865					870					875					880	
Thr	Trp	Glu	Val	Lys	Asn	Asn	Pro	Ser	Ala	Ser	Lys	Ala	Ala	Phe	Leu	
				885					890					895		
Pro	Ser	Thr	Ala	Leu	Tyr	Pro	Ile	Leu	Asn	Glu	Ser	Arg	Gly	Ser	Leu	
	900							905					910			
Pro	Gly	Lys	Asn	Leu	Val	Gly	Met	Gln	Ala	Ile	Leu	Gly	Gly	Gly	Gly	
	915						920					925				
Thr	Cys	Thr	Val	Ile	Ala	Thr	Leu	Asn	Gly	Arg	Arg	Ser	Asn	Asn	Tyr	
	930					935					940					
Pro	Ala	Gly	Gln	Ser	Ile	Ile	Phe	Val	Trp	Gln	Glu	Phe	Asn	Thr	Ile	
945					950					955					960	
Ala	Arg	Gln	Pro	Leu	Asn	His	Ser	Thr	Leu	Thr	Phe	Ser	Tyr	Trp	Thr	
				965					970					975		

<210> 7

<211> 543

<212> PRT

<213> Ovine adenovirus 287

<400> 7

Met	Lys	Arg	Ala	Arg	Trp	Asp	Pro	Val	Tyr	Pro	Phe	Ser	Glu	Glu	Arg	
1				5					10					15		
Leu	Val	Pro	Leu	Pro	Pro	Phe	Ile	Glu	Ala	Gly	Lys	Gly	Leu	Lys	Ser	

			20					25					30				
Glu	Gly	Leu	Ile	Leu	Ser	Leu	Asn	Phe	Thr	Asp	Pro	Ile	Thr	Ile	Asn		
		35					40					45					
Gln	Thr	Gly	Phe	Leu	Thr	Val	Lys	Leu	Gly	Asp	Gly	Ile	Phe	Ile	Asn		
	50					55					60						
Gly	Glu	Gly	Gly	Leu	Ser	Ser	Thr	Ala	Pro	Lys	Val	Lys	Val	Pro	Leu		
65				70					75						80		
Thr	Val	Ser	Asp	Glu	Thr	Leu	Gln	Leu	Leu	Leu	Ser	Asn	Ser	Leu	Thr		
			85					90						95			
Thr	Glu	Ser	Asp	Ser	Leu	Ala	Leu	Lys	Gln	Pro	Gln	Leu	Pro	Leu	Lys		
		100					105						110				
Ile	Asn	Asp	Glu	Gly	Ser	Leu	Val	Leu	Asn	Leu	Asn	Thr	Pro	Leu	Asn		
	115					120						125					
Leu	Gln	Asn	Glu	Arg	Leu	Ser	Leu	Asn	Val	Ser	Asn	Pro	Leu	Lys	Ile		
	130				135					140							
Ala	Ala	Asp	Ser	Leu	Thr	Ile	Asn	Leu	Lys	Glu	Pro	Leu	Gly	Leu	Gln		
145				150					155						160		
Asn	Glu	Ser	Leu	Gly	Leu	Asn	Leu	Ser	Asp	Pro	Met	Asn	Ile	Thr	Pro		
		165					170							175			
Glu	Gly	Asn	Leu	Gly	Ile	Lys	Leu	Lys	Asn	Pro	Met	Lys	Val	Glu	Glu		
	180					185						190					
Ser	Ser	Leu	Ala	Leu	Asn	Tyr	Lys	Asn	Pro	Leu	Ala	Ile	Ser	Asn	Asp		
	195				200						205						
Ala	Leu	Ser	Ile	Asn	Ile	Ala	Asn	Pro	Leu	Thr	Val	Asn	Thr	Ser	Gly		
	210			215						220							
Ser	Leu	Gly	Ile	Ser	Tyr	Ser	Thr	Pro	Leu	Arg	Ile	Ser	Asn	Asn	Ala		
225				230					235					240			
Leu	Ser	Leu	Phe	Ile	Gly	Lys	Pro	Leu	Gly	Leu	Gly	Thr	Asp	Gly	Ser		
		245						250						255			
Leu	Thr	Val	Asn	Leu	Thr	Arg	Pro	Leu	Val	Cys	Arg	Gln	Asn	Thr	Leu		
	260						265						270				
Ala	Ile	Asn	Tyr	Ser	Ala	Pro	Leu	Val	Ser	Leu	Gln	Asp	Asn	Leu	Thr		
	275					280						285					
Leu	Ser	Tyr	Ala	Gln	Pro	Leu	Thr	Val	Ser	Asp	Asn	Ser	Leu	Arg	Leu		
	290			295					300								
Ser	Leu	Asn	Ser	Pro	Leu	Asn	Thr	Asn	Ser	Asp	Gly	Lys	Leu	Ser	Val		
305				310					315					320			
Asn	Tyr	Ser	Asn	Pro	Leu	Val	Val	Thr	Asp	Ser	Asn	Leu	Thr	Leu	Ser		
		325					330						335				
Val	Lys	Lys	Pro	Val	Met	Ile	Asn	Asn	Thr	Gly	Asn	Val	Asp	Leu	Ser		
	340						345						350				
Phe	Thr	Ala	Pro	Ile	Lys	Leu	Asn	Asp	Ala	Glu	Gln	Leu	Thr	Leu	Glu		
	355					360						365					
Thr	Thr	Glu	Pro	Leu	Glu	Val	Ala	Asp	Asn	Ala	Leu	Lys	Leu	Lys	Leu		
	370			375							380						
Gly	Lys	Gly	Leu	Thr	Val	Ser	Asn	Asn	Ala	Leu	Thr	Leu	Asn	Leu	Gly		
385				390					395					400			
Asn	Gly	Leu	Thr	Phe	Gln	Gln	Gly	Leu	Leu	Gln	Ile	Lys	Thr	Asn	Ser		
		405					410						415				
Ser	Leu	Gly	Phe	Asn	Ala	Ser	Gly	Glu	Leu	Ser	Thr	Ala	Thr	Lys	Gln		
	420					425						430					
Gly	Thr	Ile	Thr	Val	Asn	Phe	Leu	Ser	Thr	Thr	Pro	Ile	Ala	Phe	Gly		
	435					440						445					
Trp	Gln	Ile	Ile	Pro	Thr	Thr	Val	Ala	Phe	Ile	Tyr	Ile	Leu	Ser	Gly		
	450				455				460								
Thr	Gln	Phe	Thr	Pro	Gln	Ser	Pro	Val	Thr	Ser	Leu	Gly	Phe	Gln	Pro		
465				470					475					480			

Pro	Gln	Asp	Phe	Leu	Asp	Phe	Phe	Val	Leu	Ser	Pro	Phe	Val	Thr	Ser
			485						490					495	
Val	Thr	Gln	Ile	Val	Gly	Asn	Asp	Val	Lys	Val	Ile	Gly	Leu	Thr	Ile
		500						505					510		
Ser	Lys	Asn	Gln	Ser	Thr	Ile	Thr	Met	Lys	Phe	Thr	Ser	Pro	Leu	Ala
		515					520					525			
Glu	Asn	Val	Pro	Val	Ser	Met	Phe	Thr	Ala	His	Gln	Phe	Arg	Gln	
		530				535					540				

<210> 8

<211> 448

<212> PRT

<213> Porcine adenovirus 3

<400> 8

Met	Gly	Pro	Lys	Lys	Gln	Lys	Arg	Glu	Leu	Pro	Glu	Asp	Phe	Asp	Pro
1			5					10					15		
Val	Tyr	Pro	Tyr	Asp	Val	Pro	Gln	Leu	Gln	Ile	Asn	Pro	Pro	Phe	Val
		20					25				30				
Ser	Gly	Asp	Gly	Phe	Asn	Gln	Ser	Val	Asp	Gly	Val	Leu	Ser	Leu	His
	35					40					45				
Ile	Ala	Pro	Pro	Leu	Val	Phe	Asp	Asn	Thr	Arg	Ala	Leu	Thr	Leu	Ala
	50					55				60					
Phe	Gly	Gly	Gly	Leu	Gln	Leu	Ser	Gly	Lys	Gln	Leu	Val	Val	Ala	Thr
65				70				75						80	
Glu	Gly	Ser	Gly	Leu	Thr	Thr	Asn	Pro	Asp	Gly	Lys	Leu	Val	Leu	Lys
			85					90					95		
Val	Lys	Ser	Pro	Ile	Thr	Leu	Thr	Ala	Glu	Gly	Ile	Ser	Leu	Ser	Leu
		100					105					110			
Gly	Pro	Gly	Leu	Ser	Asn	Ser	Glu	Thr	Gly	Leu	Ser	Leu	Gln	Val	Thr
	115					120					125				
Ala	Pro	Leu	Gln	Phe	Gln	Gly	Asn	Ala	Leu	Thr	Leu	Pro	Leu	Ala	Ala
	130				135					140					
Gly	Leu	Gln	Asn	Thr	Asp	Gly	Gly	Met	Gly	Val	Lys	Leu	Gly	Ser	Gly
145			150					155						160	
Leu	Thr	Thr	Asp	Asn	Ser	Gln	Ala	Val	Thr	Val	Gln	Val	Gly	Asn	Gly
			165					170					175		
Leu	Gln	Leu	Asn	Gly	Glu	Gly	Gln	Leu	Thr	Val	Pro	Ala	Thr	Ala	Pro
	180						185					190			
Leu	Val	Ser	Gly	Ser	Ala	Gly	Ile	Ser	Phe	Asn	Tyr	Ser	Ser	Asn	Asp
	195					200					205				
Phe	Val	Leu	Asp	Asn	Asp	Ser	Leu	Ser	Leu	Arg	Pro	Lys	Ala	Ile	Ser
	210				215					220					
Val	Thr	Pro	Pro	Leu	Gln	Ser	Thr	Glu	Asp	Thr	Ile	Ser	Leu	Asn	Tyr
225				230				235						240	
Ser	Asn	Asp	Phe	Ser	Val	Asp	Asn	Gly	Ala	Leu	Thr	Leu	Ala	Pro	Thr
		245						250					255		
Phe	Lys	Pro	Tyr	Thr	Leu	Trp	Thr	Gly	Ala	Ser	Pro	Thr	Ala	Asn	Val
	260						265						270		
Ile	Leu	Thr	Asn	Thr	Thr	Thr	Pro	Asn	Gly	Thr	Phe	Phe	Leu	Cys	Leu
	275					280					285				
Thr	Arg	Val	Gly	Gly	Leu	Val	Leu	Gly	Ser	Phe	Ala	Leu	Lys	Ser	Ser
	290				295					300					
Ile	Asp	Leu	Thr	Ser	Met	Thr	Lys	Lys	Val	Asn	Phe	Ile	Phe	Asp	Gly
305				310				315						320	
Ala	Gly	Arg	Leu	Gln	Ser	Asp	Ser	Thr	Tyr	Lys	Gly	Arg	Phe	Gly	Phe
			325					330						335	

Arg	Ser	Asn	Asp	Ser	Val	Ile	Glu	Pro	Thr	Ala	Ala	Gly	Leu	Ser	Pro
			340					345					350		
Ala	Trp	Leu	Met	Pro	Ser	Thr	Phe	Ile	Tyr	Pro	Arg	Asn	Thr	Ser	Gly
		355					360					365			
Ser	Ser	Leu	Thr	Ser	Phe	Val	Tyr	Ile	Asn	Gln	Thr	Tyr	Val	His	Val
		370				375					380				
Asp	Ile	Lys	Val	Asn	Thr	Leu	Ser	Thr	Asn	Gly	Tyr	Ser	Leu	Glu	Phe
385					390					395					400
Asn	Phe	Gln	Asn	Met	Ser	Phe	Ser	Ala	Pro	Phe	Ser	Thr	Ser	Tyr	Gly
			405					410						415	
Thr	Phe	Cys	Tyr	Val	Pro	Arg	Arg	Thr	Thr	His	Arg	Pro	Arg	His	Gly
		420						425				430			
Pro	Phe	Ser	Leu	Arg	Glu	Arg	Arg	His	Leu	Phe	Gln	Leu	Leu	Gln	Gln
		435				440					445				

<210> 9

<211> 542

<212> PRT

<213> Canine adenovirus 2

<400> 9

Met	Lys	Arg	Thr	Arg	Arg	Ala	Leu	Pro	Ala	Asn	Tyr	Asp	Pro	Val	Tyr
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Pro	Tyr	Asp	Ala	Pro	Gly	Ser	Ser	Thr	Gln	Pro	Pro	Phe	Phe	Asn	Asn
		20						25				30			
Lys	Gln	Gly	Leu	Thr	Glu	Ser	Pro	Pro	Gly	Thr	Leu	Ala	Val	Asn	Val
		35				40					45				
Ser	Pro	Pro	Leu	Thr	Phe	Ser	Thr	Leu	Gly	Ala	Ile	Lys	Leu	Ser	Thr
	50				55					60					
Gly	Pro	Gly	Leu	Thr	Leu	Asn	Glu	Gly	Lys	Leu	Gln	Ala	Ser	Leu	Gly
65				70					75					80	
Pro	Gly	Leu	Ile	Thr	Asn	Thr	Glu	Gly	Gln	Ile	Thr	Val	Glu	Asn	Val
			85					90					95		
Asn	Lys	Val	Leu	Ser	Phe	Thr	Ser	Pro	Leu	His	Lys	Asn	Glu	Asn	Thr
		100						105					110		
Val	Ser	Leu	Ala	Leu	Gly	Asp	Gly	Leu	Glu	Asp	Glu	Asn	Gly	Thr	Leu
		115				120						125			
Lys	Val	Thr	Phe	Pro	Thr	Pro	Pro	Pro	Pro	Leu	Gln	Phe	Ser	Pro	Pro
	130					135					140				
Leu	Thr	Lys	Thr	Gly	Gly	Thr	Val	Ser	Leu	Pro	Leu	Gln	Asp	Ser	Met
145				150					155					160	
Gln	Val	Thr	Asn	Gly	Lys	Leu	Gly	Val	Lys	Pro	Thr	Thr	Tyr	Ala	Pro
			165					170					175		
Pro	Leu	Lys	Lys	Thr	Asp	Gln	Gln	Val	Ser	Leu	Gln	Val	Gly	Ser	Gly
		180						185					190		
Leu	Thr	Val	Ile	Asn	Glu	Gln	Leu	Gln	Ala	Val	Gln	Pro	Pro	Ala	Thr
	195					200						205			
Thr	Tyr	Asn	Glu	Pro	Leu	Ser	Lys	Thr	Asp	Asn	Ser	Val	Ser	Leu	Gln
	210					215					220				
Val	Gly	Ala	Gly	Leu	Ala	Val	Gln	Ser	Gly	Ala	Leu	Val	Ala	Thr	Pro
225				230					235					240	
Pro	Pro	Pro	Leu	Thr	Phe	Thr	Ser	Pro	Leu	Glu	Lys	Asn	Glu	Asn	Thr
			245						250					255	
Val	Ser	Leu	Gln	Val	Gly	Ala	Gly	Leu	Ser	Val	Gln	Asn	Asn	Ala	Leu
		260					265					270			
Val	Ala	Thr	Pro	Pro	Pro	Pro	Leu	Thr	Phe	Ala	Tyr	Pro	Leu	Val	Lys
		275					280					285			

Asn	Asp	Asn	His	Val	Ala	Leu	Ser	Ala	Gly	Ser	Gly	Leu	Arg	Ile	Ser
290						295					300				
Gly	Gly	Ser	Leu	Thr	Val	Ala	Thr	Gly	Pro	Gly	Leu	Ser	His	Gln	Asn
305					310					315					320
Gly	Thr	Ile	Gly	Ala	Val	Val	Gly	Ala	Gly	Leu	Lys	Phe	Glu	Asn	Asn
				325					330						335
Ala	Ile	Leu	Ala	Lys	Leu	Gly	Asn	Gly	Leu	Thr	Ile	Arg	Asp	Gly	Ala
			340					345					350		
Ile	Glu	Ala	Thr	Gln	Pro	Pro	Ala	Ala	Pro	Ile	Thr	Leu	Trp	Thr	Gly
		355					360						365		
Pro	Gly	Pro	Ser	Ile	Asn	Gly	Phe	Ile	Asn	Asp	Thr	Pro	Val	Ile	Arg
	370					375					380				
Cys	Phe	Ile	Cys	Leu	Thr	Arg	Asp	Ser	Asn	Leu	Val	Thr	Val	Asn	Ala
385					390					395					400
Ser	Phe	Val	Gly	Glu	Gly	Gly	Tyr	Arg	Ile	Val	Ser	Pro	Thr	Gln	Ser
			405						410						415
Gln	Phe	Ser	Leu	Ile	Met	Glu	Phe	Asp	Gln	Phe	Gly	Gln	Leu	Met	Ser
			420					425					430		
Thr	Gly	Asn	Ile	Asn	Ser	Thr	Thr	Thr	Trp	Gly	Glu	Lys	Pro	Trp	Gly
		435					440						445		
Asn	Asn	Thr	Val	Gln	Pro	Arg	Pro	Ser	His	Thr	Trp	Lys	Leu	Cys	Met
	450					455					460				
Pro	Asn	Arg	Glu	Val	Tyr	Ser	Thr	Pro	Ala	Ala	Thr	Ile	Ser	Arg	Cys
465					470					475					480
Gly	Leu	Asp	Ser	Ile	Ala	Val	Asp	Gly	Ala	Pro	Ser	Arg	Ser	Ile	Asp
				485					490						495
Cys	Met	Leu	Ile	Ile	Asn	Lys	Pro	Lys	Gly	Val	Ala	Thr	Tyr	Thr	Leu
			500					505						510	
Thr	Phe	Arg	Phe	Leu	Asn	Phe	Asn	Arg	Leu	Ser	Gly	Gly	Thr	Leu	Phe
		515					520					525			
Lys	Thr	Asp	Val	Leu	Thr	Phe	Thr	Tyr	Val	Gly	Glu	Asn	Gln		
	530					535					540				